

priated under the Federal-Aid Highway Act of 1956, to the extent approved”.

### § 306. Mapping

In carrying out the provisions of this title, the Secretary may, wherever practicable, authorize the use of photogrammetric methods in mapping, and the utilization of commercial enterprise for such services.

(Pub. L. 85-767, Aug. 27, 1958, 72 Stat. 913.)

### § 307. Research and planning

(a) RESEARCH AND TECHNOLOGY PROGRAM.—

(1) AUTHORITY OF THE SECRETARY.—

(A) IN GENERAL.—The Secretary may engage in research, development, and technology transfer activities with respect to motor carrier transportation and all phases of highway planning and development (including construction, operation, modernization, development, design, maintenance, safety, financing, and traffic conditions) and the effect thereon of State laws and may test, develop, or assist in testing and developing any material, invention, patented article, or process.

(B) COOPERATION, GRANTS, AND CONTRACTS.—The Secretary may carry out this section either independently or in cooperation with other Federal departments, agencies, and instrumentalities or by making grants to, and entering into contracts and cooperative agreements with, the National Academy of Sciences, the American Association of State Highway and Transportation Officials, or any State agency, authority, association, institution, corporation (profit or nonprofit), organization, or person.

(C) RESEARCH FELLOWSHIPS.—

(i) GENERAL AUTHORITY.—The Secretary may, acting either independently or in cooperation with other Federal departments, agencies, and instrumentalities, make grants for research fellowships for any purpose for which research is authorized by this section.

(ii) DWIGHT DAVID EISENHOWER TRANSPORTATION FELLOWSHIP PROGRAM.—The Secretary shall establish and implement a transportation research fellowship program for the purpose of attracting qualified students to the field of transportation engineering and research. Such program shall be known as the “Dwight David Eisenhower Transportation Fellowship Program”. Of the funds made available pursuant to paragraph (3) for each fiscal year beginning after September 30, 1991, the Secretary shall expend not less than \$2,000,000 per fiscal year to carry out such program.

(2) COLLABORATIVE RESEARCH AND DEVELOPMENT.—

(A) IN GENERAL.—For the purposes of encouraging innovative solutions to highway problems and stimulating the marketing of new technology by private industry, the Secretary is authorized to undertake, on a cost-shared basis, collaborative research and development with non-Federal entities, includ-

ing State and local governments, foreign governments, colleges and universities, corporations, institutions, partnerships, sole proprietorships, and trade associations which are incorporated or established under the laws of any State.

(B) AGREEMENTS.—In carrying out this paragraph, the Secretary may enter into cooperative research and development agreements, as such term is defined under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a).

(C) FEDERAL SHARE.—The Federal share payable on account of activities carried out under a cooperative research and development agreement entered into under this paragraph shall not exceed 50 percent of the total cost of such activities; except that, if there is substantial public interest or benefit, the Secretary may approve a higher Federal share. All costs directly incurred by the non-Federal partners, including personnel, travel, and hardware development costs, shall be treated as part of the non-Federal share of the cost of such activities for purposes of the preceding sentence.

(D) UTILIZATION OF TECHNOLOGY.—The research, development, or utilization of any technology pursuant to a cooperative research and development agreement entered into under this paragraph, including the terms under which the technology may be licensed and the resulting royalties may be distributed, shall be subject to the Stevenson-Wydler Technology Innovation Act of 1980.

(3) FUNDS.—

(A) IN GENERAL.—The funds necessary to carry out this subsection and subsections (b), (d), and (e) shall be taken by the Secretary out of administrative funds deducted pursuant to section 104(a) of this title and such funds as may be deposited by any cooperating organization or person in a special account of the Treasury of the United States established for such purposes.

(B) MINIMUM EXPENDITURES ON LONG-TERM RESEARCH PROJECTS.—Not less than 15 percent of the funds made available under this paragraph shall be expended on long-term research projects which are unlikely to be completed within 10 years.

(4) WAIVER OF ADVERTISING REQUIREMENTS.—The provisions of section 3709 of the Revised Statutes (41 U.S.C. 5) shall not be applicable to contracts or agreements entered into under this section.

(b) MANDATORY CONTENTS OF RESEARCH PROGRAM.—

(1) INCLUSION OF CERTAIN STUDIES.—The Secretary shall include in the highway research program under subsection (a) studies of economic highway geometrics, structures, and desirable weight and size standards for vehicles using the public highways and of the feasibility of uniformity in State regulations with respect to such standards. The highway research program shall also include studies to identify and measure, quantitatively and qualitatively, those factors which relate to economic, social,

environmental, and other impacts of highway projects.

(2) SHRP RESULTS.—

(A) IMPLEMENTATION.—The highway research program under subsection (a) shall include a program to implement results of the strategic highway research program carried out under subsection (d) (including results relating to automatic intrusion alarms for street and highway construction work zones) and to continue the long-term pavement performance tests being carried out under such program.

(B) MINIMUM FUNDING.—Of amounts deducted under section 104(a) of this title, the Secretary shall expend not less than \$12,000,000 in fiscal year 1992, \$16,000,000 in fiscal year 1993, and \$20,000,000 per fiscal year for each of fiscal years 1994, 1995, 1996, and 1997 to carry out this paragraph.

(3) SURFACE TRANSPORTATION SYSTEM PERFORMANCE INDICATORS.—The highway research program under subsection (a) shall include a coordinated long-term program of research for the development, use, and dissemination of performance indicators to measure the performance of the surface transportation system of the United States, including indicators for productivity, efficiency, energy use, air quality, congestion, safety, maintenance, and other factors which reflect the overall performance of such system.

(4) SHORT HAUL PASSENGER TRANSPORTATION SYSTEMS.—The Secretary shall conduct necessary systems research in order to develop a concept for a lightweight, pneumatic tire multiple-unit, battery-powered system, in conjunction with recharging stations at strategic locations. The Secretary shall create a potential systems concept and, as part of the surface transportation research and development plan under subsection (b), make recommendations to Congress by January 15, 1993.

(5) SUPPORTING INFRASTRUCTURE.—The Secretary shall establish a program to strengthen and expand surface transportation infrastructure research and development. The program shall include the following elements:

(A) Methods and materials for improving the durability of surface transportation infrastructure facilities and extending the life of bridge structures, including new and innovative technologies to reduce corrosion.

(B) Expansion of the Department of Transportation's inspection and mobile non-destructive examination capabilities, including consideration of the use of high energy field radiography for more thorough and more frequent inspections of bridge structures as well as added support to State highway departments.

(C) The Secretary shall determine whether or not to initiate a construction equipment research and development program directed toward the reduction of costs associated with the construction of highways and mass transit systems. The Secretary shall transmit to Congress a report containing such determination on or before July 1, 1992.

(D) The Secretary shall undertake or supervise surface transportation infrastructure research to develop—

(i) nondestructive evaluation equipment for use with existing infrastructure facilities and for next generation infrastructure facilities that utilize advanced materials;

(ii) information technologies, including—

(I) appropriate computer programs to collect and analyze data on the status of the existing infrastructure facilities for enhancing management, growth, and capacity; and

(II) dynamic simulation models of surface transportation systems for predicting capacity, safety, and infrastructure durability problems, for evaluating planned research projects, and for testing the strengths and weaknesses of proposed revisions in surface transportation operations programs; and

(iii) new and innovative technologies to enhance and facilitate field construction and rehabilitation techniques for minimizing disruption during repair and maintenance of existing structures.

(c) STATE PLANNING AND RESEARCH.—

(1) GENERAL RULE.—2 percent of the sums apportioned for each fiscal year beginning after September 30, 1991, to any State under sections 104 and 144 of this title and for highway projects under section 103(e)(4) of this title shall be available for expenditure by the State highway department, in consultation with the Secretary, only for the following purposes:

(A) Engineering and economic surveys and investigations.

(B) The planning of future highway programs and local public transportation systems and for planning for the financing thereof, including statewide planning under section 135 of this title.

(C) Development and implementation of management systems under section 303 of this title.

(D) Studies of the economy, safety, and convenience of highway usage and the desirable regulation and equitable taxation thereof.

(E) Research, development, and technology transfer activities necessary in connection with the planning, design, construction, and maintenance of highway, public transportation, and intermodal transportation systems and study, research, and training on engineering standards and construction materials for such systems, including evaluation and accreditation of inspection and testing and the regulation and taxation of their use.

(2) MINIMUM EXPENDITURES ON RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES.—Not less than 25 percent of the funds which are apportioned to a State for a fiscal year and are subject to paragraph (1) shall be expended by the State for research, development, and technology transfer activities described in paragraph (1) relating to highway, public transportation, and intermodal transportation systems unless the State certifies to the Secretary for such fiscal year that total expenditures by the State for transportation

planning under sections 134 and 135 will exceed 75 percent of the amount of such funds and the Secretary accepts such certification.

(3) FEDERAL SHARE.—The Federal share payable on account of any project financed with funds which are subject to paragraph (1) shall be 80 percent unless the Secretary determines that the interests of the Federal-aid highway program would be best served by decreasing or eliminating the non-Federal share.

(4) ADMINISTRATION OF SUMS.—Funds which are subject to paragraph (1) shall be combined and administered by the Secretary as a single fund which shall be available for obligation for the same period as funds apportioned under section 104(b)(1) of this title.

(d) STRATEGIC HIGHWAY RESEARCH PROGRAM.—

(1) ESTABLISHMENT.—The Secretary, in consultation with the American Association of State Highway and Transportation Officials, shall carry out such research, development, and technology transfer activities as the Secretary determines to be strategically important to the national highway transportation system.

(2) COOPERATIVE AGREEMENTS.—The Secretary may make grants to, and enter into cooperative agreements with, the American Association of State Highway and Transportation Officials and the National Academy of Sciences to carry out such activities under this subsection as the Secretary determines are appropriate. Advance payments may be made as necessary to carry out the program under this subsection.

(3) PERIOD OF AVAILABILITY.—Funds set aside to carry out this subsection shall remain available for the fiscal year in which such funds are made available and the three succeeding fiscal years.

(4) SET ASIDE.—As soon as practicable after the date of the enactment of the Federal-Aid Highway Act of 1987 in fiscal year 1987 and on October 1 of each of fiscal years 1988, 1989, 1990, and 1991, the Secretary shall set aside to carry out this subsection not to exceed  $\frac{1}{4}$  of 1 percent of the funds authorized to be appropriated for such fiscal year for the Federal-aid systems, for highway assistance programs under section 103(e)(4) of this title, for bridge replacement and rehabilitation under section 144 of this title, for elimination of hazards under section 152 of this title, and for elimination of hazards of railway-highway crossings under section 130 of this title. In the case of funds authorized for apportionment on the Interstate System, the Secretary shall set aside that portion of such funds (subject to the overall limitation of  $\frac{1}{4}$  of 1 percent) in the year next preceding the fiscal year for which such funds are authorized for such System.

(5) ANNUAL REPORT.—The Secretary shall transmit a report annually beginning on January 1, 1988, to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives which provides information on the progress and research findings the<sup>1</sup> program conducted under this subsection.

(6) LIMITATION OF REMEDIES.—

(A) SAME REMEDY AS IF UNITED STATES.—The remedy against the United States provided by sections 1346(b) and 2672 of title 28, United States Code, for injury, loss of property, personal injury, or death shall apply to any claim against the National Academy of Sciences for money damages for injury, loss of property, personal injury, or death caused by any negligent or wrongful act or omission arising from activities conducted under or in connection with this subsection. Any such claim shall be subject to the limitations and exceptions which would be applicable to such claim if such claim were against the United States. With respect to any such claim, the Secretary shall be treated as the head of the appropriate Federal agency for purposes of sections 2672 and 2675 of such title.

(B) EXCLUSIVENESS OF REMEDY.—The remedy referred to in subparagraph (A) shall be exclusive of any other civil action or proceeding for the purpose of determining liability arising from any such act or omission without regard to when the act or omission occurred.

(C) TREATMENT.—Employees of the National Academy of Sciences and other individuals appointed by the President of the National Academy of Sciences and acting on its behalf in connection with activities carried out under this subsection shall be treated as if they are employees of the Federal Government under section 2671 of title 28, United States Code, for purposes of a civil action or proceeding with respect to a claim described in subparagraph (A); and the civil action or proceeding shall proceed in the same manner as any proceeding under chapter 171 of such title, or any proceeding under chapter 171 of such title or action against the United States filed pursuant to section 1346(b) of such title, and shall be subject to the limitations and exceptions applicable to such a proceeding or action.

(D) REMOVAL.—Upon certification by the Attorney General that a civil action or proceeding with respect to a claim described in subparagraph (A) is being brought in a State court, such civil action or proceeding shall be removed from the State court without bond at any time before trial by the Attorney General to the district court of the United States for the district and division embracing the place wherein it is pending and the proceeding shall be deemed a tort action brought against the United States under the provisions of title 28, United States Code. For purposes of removal, the certification of the Attorney General under this subparagraph shall be conclusive.

(E) SOURCES OF PAYMENTS.—Payment of any award, compromise, or settlement of a civil action or proceeding with respect to a claim described in subparagraph (A) shall be paid first out of insurance maintained by the National Academy of Sciences, second from funds made available to carry out this subsection, and then from sums made available under section 1304 of title 31, United States

<sup>1</sup> So in original. Probably should be "of the".

Code. For purposes of such section, such an award, compromise, or settlement shall be deemed to be a judgment, award, or settlement payable under section 2414 or 2672 of title 28, United States Code. The Secretary may establish a reserve of funds made available to carry out this subsection for making payments under this paragraph.

(e) APPLIED RESEARCH AND TECHNOLOGY PROGRAM.—

(1) ESTABLISHMENT.—The Secretary shall establish and implement in accordance with this subsection an applied research and technology program for the purpose of accelerating testing, evaluation, and implementation of technologies which are designed to improve the durability, efficiency, environmental impact, productivity, and safety of highway, transit, and intermodal transportation systems.

(2) GUIDELINES.—Not later than 18 months after the date of the enactment of this subsection, the Secretary shall issue guidelines to carry out this subsection. Such guidelines shall include:

(A) TECHNOLOGIES.—Guidelines on the selection of both foreign and domestic technologies to be tested.

(B) TEST LOCATIONS.—Guidelines on the selection of locations at which tests will be conducted. Such guidelines shall ensure that testing is conducted in a range of climatic, traffic, geographic, and environmental conditions, as appropriate for the technology being tested.

(C) DATA.—Guidelines for the scientific collection, evaluation, and dissemination of appropriate test data.

(3) TECHNOLOGIES.—Technologies which may be tested under this subsection include, but are not limited to—

(A) accelerated construction materials and procedures;

(B) environmentally beneficial materials and procedures;

(C) materials and techniques which provide enhanced serviceability and longevity under adverse climatic,<sup>2</sup> environmental, and load effects;

(D) technologies which increase the efficiency and productivity of vehicular travel; and

(E) technologies and techniques which enhance the safety and accessibility of vehicular transportation systems.

(4) HEATED BRIDGE TECHNOLOGIES.—

(A) PROJECTS.—As part of the program under this subsection, the Secretary shall carry out projects to assess the state of technology with respect to heating the decks of bridges and the feasibility of, and costs and benefits associated with, heating the decks of bridges. Such projects shall be carried out by installing heating equipment on the decks of bridges which are being replaced or rehabilitated under section 144 of this title.

(B) MINIMUM NUMBER OF BRIDGES.—The number of bridges for which heating equip-

ment is installed under this subsection in a fiscal year shall not be less than 10 bridges.

(5) ELASTOMER MODIFIED ASPHALT.—As part of the program under this subsection, the Secretary shall carry out a project in the State of New Jersey to demonstrate the environmental and safety benefits of elastomer modified asphalt.

(6) HIGH PERFORMANCE BLENDED HYDRAULIC CEMENT.—As part of the program under this subsection, the Secretary shall carry out a project in the State of Missouri to demonstrate the durability and construction efficiency of high performance blended hydraulic cement.

(7) THIN BONDED OVERLAY AND SURFACE LAMINATION OF PAVEMENT.—As part of the program under this subsection, the Secretary shall carry out projects to assess the state of technology with respect to thin bonded overlay (including inorganic bonding systems) and surface lamination of pavement, and to assess the feasibility of, and costs and benefits associated with, the repair, rehabilitation, and upgrading of highways and bridges with overlay. Such projects shall be carried out so as to minimize overlay thickness, minimize initial laydown costs, minimize time out of service, and maximize lifecycle durability.

(8) ALL WEATHER PAVEMENT MARKINGS.—As part of the program under this subsection, the Secretary shall carry out a program to demonstrate the safety and durability of all weather pavement markings.

(9) TESTING OF HIGHWAY TECHNOLOGIES.—Projects carried out under this subsection to test technologies related to highways shall be carried out on highways on the Federal-aid system.

(10) TECHNICAL ASSISTANCE.—The Secretary shall provide technical assistance to States and localities in carrying out projects under this subsection.

(11) ANNUAL REPORT.—Not later than 1 year after the date of the enactment of this subsection, and annually thereafter, the Secretary shall transmit to the Committee on Public Works and Transportation of the House of Representatives and the Committee on Environment and Public Works of the Senate a report on the progress and research findings of the program carried out under this subsection.

(12) FEDERAL SHARE.—The Federal share of the cost of a project carried out under this subsection shall not exceed 80 percent.

(13) FUNDING.—The Secretary shall expend from administrative and research funds deducted under section 104(a) of this title and funds made available under section 5313(a) of title 49, “\$35,000,000<sup>3</sup> for fiscal year 1992 and \$41,000,000 per fiscal year for each of fiscal years 1993, 1994, 1995, 1996, and 1997 to carry out this subsection. Of such amounts, in each of fiscal years 1992, 1993, 1994, 1995, 1996, and 1997, the Secretary shall expend not less than \$4,000,000 per fiscal year to carry out projects related to heated bridge technologies under paragraph (4), not less than \$2,500,000 per fiscal

<sup>2</sup> So in original. Probably should be “climatic.”

<sup>3</sup> So in original. Opening quotation marks probably should not precede “\$35,000,000”.

year to carry out projects related to thin bonded overlay and surface lamination of pavements under paragraph (7), and not less than \$2,000,000 per fiscal year to carry out projects related to all weather pavement markings under paragraph (8). Amounts made available under this subsection shall remain available until expended and shall not be subject to any obligation limitation.

(f) SEISMIC RESEARCH PROGRAM.—

(1) ESTABLISHMENT.—The Secretary shall establish a program to study the vulnerability of highways, tunnels, and bridges on the Federal-aid system to earthquakes and develop and implement cost-effective methods of retrofitting such highways, tunnels, and bridges to reduce such vulnerability.

(2) COOPERATION WITH NATIONAL CENTER FOR EARTHQUAKE ENGINEERING RESEARCH.—The Secretary shall conduct the program under this section in cooperation with the National Center for Earthquake Engineering Research at the University of Buffalo.

(3) COOPERATION WITH AGENCIES PARTICIPATING IN NATIONAL HAZARDS REDUCTION PROGRAM.—The Secretary shall further conduct the program under this section in consultation and cooperation with Federal departments and agencies participating in the National Hazards Reduction Program<sup>4</sup> established by section 5 of the Earthquake Hazards Reduction Act of 1977 and shall take such actions as may be necessary to ensure that the program under this subsection is consistent with—

(A) planning and coordination activities of the Federal Emergency Management Agency under section 5(b)(1) of such Act; and

(B) the plan developed by the Director of the Federal Emergency Management Agency under section 8(b) of such Act.

(4) FUNDING.—Of amounts deducted under section 104(a) of this title, the Secretary shall expend not more than \$2,000,000 per fiscal year in each of fiscal years 1992, 1993, 1994, 1995, 1996, and 1997 to carry out this subsection.

(5) REPORT.—Not later than 2 years after the date of the enactment of this section, the Secretary shall transmit to the Committee on Public Works and Transportation of the House of Representatives and the Committee on Environment and Public Works of the Senate a report on the progress and research findings of the program carried out under this section.

(g) As used in this section the term “safety” includes, but is not limited to, highway safety systems, research and development relating to vehicle, highway, and driver characteristics, accident investigations, communications, emergency medical care, and transportation of the injured.

(h) The Secretary shall report to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives in January 1983, and in January of every second year thereafter, estimates of the future highway needs of the Nation. The biennial reports re-

quired under this subsection shall provide the means, including all necessary information, to relate and compare the conditions and service measures used in different years when such measures are changed.

(Pub. L. 85-767, Aug. 27, 1958, 72 Stat. 913; Pub. L. 87-866, §11, Oct. 23, 1962, 76 Stat. 1148; Pub. L. 88-157, §6, Oct. 24, 1963, 77 Stat. 277; Pub. L. 89-564, title I, §103, Sept. 9, 1966, 80 Stat. 735; Pub. L. 91-605, title I, §§115(c), 126, 136(c), Dec. 31, 1970, 84 Stat. 1723, 1729, 1735; Pub. L. 93-87, title I, §151, Aug. 13, 1973, 87 Stat. 276; Pub. L. 96-470, title I, §112(b)(2), Oct. 19, 1980, 94 Stat. 2239; Pub. L. 97-424, title I, §§156(a), (b), (d), 160(a), Jan. 6, 1983, 96 Stat. 2134, 2135; Pub. L. 100-17, title I, §§128, 129, 133(b)(17), Apr. 2, 1987, 101 Stat. 167, 169, 172; Pub. L. 102-240, title VI, §§6001, 6005, Dec. 18, 1991, 105 Stat. 2162, 2170; Pub. L. 103-429, §3(10), Oct. 31, 1994, 108 Stat. 4378.)

#### REFERENCES IN TEXT

The Stevenson-Wylder Technology Innovation Act of 1980, referred to in subsec. (a)(2)(D), is Pub. L. 96-480, Oct. 21, 1980, 94 Stat. 2311, as amended, which is classified generally to chapter 63 (§3701 et seq.) of Title 15, Commerce and Trade. For complete classification of this Act to the Code, see Short Title note set out under section 3701 of Title 15 and Tables.

The date of the enactment of the Federal-Aid Highway Act of 1987, referred to in subsec. (d)(4), is the date of enactment of title I of Pub. L. 100-17, which was approved Apr. 2, 1987.

The date of the enactment of this subsection, referred to in subsec. (e)(2), (11), is the date of enactment of Pub. L. 102-240, which was approved Dec. 18, 1991.

Sections 5 and 8 of the Earthquake Hazards Reduction Act of 1977, referred to in subsec. (f)(3), are classified to sections 7704 and 7705b, respectively, of Title 42, The Public Health and Welfare.

The date of the enactment of this section, referred to in subsec. (f)(5), probably means the date of enactment of Pub. L. 102-240 which amended this section and was approved Dec. 18, 1991.

#### AMENDMENTS

1994—Subsec. (e)(13). Pub. L. 103-429 substituted “section 5313(a) of title 49” for “section 26(a)(1) of the Federal Transit Act”.

1991—Subsec. (a). Pub. L. 102-240, §6001, amended subsec. (a) generally, substituting present provisions for provisions authorizing research on all phases of highway construction, modernization, development, design, maintenance, safety, financing, and traffic conditions, providing for grants for research fellowships and funding for such grants, and providing for inapplicability of 41 U.S.C. 5 to contracts or agreements made under this subsection.

Subsec. (b). Pub. L. 102-240, §6001, amended subsec. (b) generally, substituting present provisions for provisions allowing inclusion in highway research program authorized studies of economic highway geometrics, structures, and desirable weight and size standards for vehicles using public highways, as well as studies to identify and measure factors which relate to economic, social, environmental, and other impacts of highway projects.

Subsec. (c). Pub. L. 102-240, §6001, amended subsec. (c) generally, substituting present provisions for provisions relating to availability of sums apportioned under sections 103, 104, and 144 of this title for various activities relating to research and planning.

Subsecs. (e) to (g). Pub. L. 102-240, §6005(a), added subsecs. (e) and (f) and redesignated former subsecs. (e) and (f) as (g) and (h), respectively.

Subsec. (h). Pub. L. 102-240, §6005, redesignated subsec. (f) as (h) and inserted provisions at end directing

<sup>4</sup> So in original. Probably should be “National Earthquake Hazards Reduction Program”.

that the biennial reports required under this subsection provide the means, including all necessary information, to relate and compare the conditions and service measures used in different years when such measures are changed.

1987—Subsec. (c)(1). Pub. L. 100-17, §129, inserted reference to highway projects under section 103(e)(4).

Subsecs. (d), (e). Pub. L. 100-17, §128, added subsec. (d) and redesignated former subsecs. (d) and (e) as (e) and (f), respectively.

Subsec. (f). Pub. L. 100-17, §§128, 133(b)(17), redesignated former subsec. (e) as (f) and substituted “the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives” for “the Congress”.

1983—Subsec. (c)(1). Pub. L. 97-424, §156(d), inserted “and for study, research and training on engineering standards and construction materials, including evaluation and accreditation of inspection and testing,” after “highways and highway systems”.

Subsec. (c)(2). Pub. L. 97-424, §156(b), substituted “1983” for “1964”, and “sections 104 and 144” for “section 104”.

Subsec. (c)(5). Pub. L. 97-424, §156(a), added par. (5).

Subsec. (e). Pub. L. 97-424, §160(a), added subsec. (e).

1980—Subsec. (b). Pub. L. 96-470 struck out “and he shall report from time to time to the Committees on Public Works of the Senate and of the House of Representatives on the progress and findings with respect to such studies” after “such standards”.

1973—Subsec. (c)(1). Pub. L. 93-87 substituted “fiscal year beginning with fiscal year 1974” for “fiscal year prior to the fiscal year 1964”.

1970—Subsec. (a). Pub. L. 91-605, §115(c), authorized Secretary to make grants for research fellowships for any purpose for which research is otherwise authorized by this section.

Subsec. (b). Pub. L. 91-605, §136(c), authorized the highway research program to include studies to identify and measure, quantitatively and qualitatively, those factors which relate to economic, social, environmental, and other impacts of highway projects.

Subsec. (c)(3). Pub. L. 91-605, §126, authorized percentage of appropriation for demonstration projects in connection with the purposes enumerated in par. (1) of this subsection.

1966—Subsec. (a). Pub. L. 89-564, §103(1), inserted “, funds authorized to carry out section 403 of this title,” after “section 104 of this title”.

Subsec. (d). Pub. L. 89-564, §103(2), added subsec. (d).

1963—Subsec. (c)(1). Pub. L. 88-157 authorized development expenditures.

1962—Subsec. (c). Pub. L. 87-866 designated existing provisions as par. (1), substituted “each fiscal year prior to the fiscal year 1964” for “any year”, and added pars. (2) to (4).

#### CHANGE OF NAME

Committee on Public Works and Transportation of House of Representatives changed to Committee on Transportation and Infrastructure of House of Representatives by House Resolution No. 6, One Hundred Fourth Congress, Jan. 4, 1995.

#### REPORT TO CONGRESS ON QUALITY IMPROVEMENT

Section 1043 of Pub. L. 102-240 directed Comptroller General to submit within 24 months following Dec. 18, 1991, a report to Congress addressing means for improving quality of highways constructed with Federal assistance and addressing Federal design standards, engineering and design services, and construction of Federal-aid highway projects.

#### SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT PLANNING

Section 6009 of title VI of Pub. L. 102-240 provided that:

“(a) FINDINGS.—Congress finds that—

“(1) despite an annual expenditure in excess of \$10,000,000,000 on surface transportation and its infrastructure, the Federal Government has not developed a clear vision of—

“(A) how the surface transportation systems of the 21st century will differ from the present;

“(B) how they will interface with each other and with other forms of transportation;

“(C) how such systems will adjust to changing American population patterns and lifestyles; and

“(D) the role of federally funded research and development in ensuring that appropriate transportation systems are developed and implemented;

“(2) the population of the United States is projected to increase by over 30,000,000 people within the next 20 years, mostly in existing major metropolitan areas, which will result in increased traffic congestion within and between urban areas, more accidents, loss of productive time, and increased cost of transportation unless new technologies are developed to improve public transportation within cities and to move people and goods between cities;

“(3) 18,000,000 crashes, 4,000,000 injuries, and 45,000 fatalities each year on the Nation’s highways are intolerable and substantial research is required in order to develop safer technologies in their most useful and economic forms;

“(4) current research and development funding for surface transportation is insufficient to provide the United States with the technologies essential to providing its own advanced transportation systems in the future and, as a result, the United States is becoming increasingly dependent on foreign surface transportation technologies and equipment to meet its expanding surface transportation needs;

“(5) a more active, focused surface transportation research and development program involving cooperation among the Federal Government, United States based industry, and United States universities should be organized on a priority basis;

“(6) intelligent vehicle highway systems represent the best near-term technology for improving surface transportation for public benefit by providing equipment which can improve traffic flow and provide for enhanced safety;

“(7) research and development programs related to surface transportation are fragmented and dispersed throughout government and need to be strengthened and incorporated in an integrated framework within which a consensus on the goals of a national surface transportation research and development program must be developed;

“(8) the inability of government agencies to cooperate effectively, the difficulty of obtaining public support for new systems and rights-of-way, and the high cost of capital financing discourage private firms from investing in the development of new transportation equipment and systems; therefore, the Federal Government should sponsor and coordinate research and development of new technologies to provide safer, more convenient, and affordable transportation systems for use in the future; and

“(9) an effective high technology applied research and development program should be implemented quickly by strengthening the Department of Transportation research and development staff and by contracting with private industry for specific development projects.

“(b) SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT PLAN.—

“(1) DEVELOPMENT.—The Secretary shall develop an integrated national surface transportation research and development plan (hereinafter in this subsection referred to as the ‘plan’).

“(2) FOCUS.—The plan shall focus on surface transportation systems needed for urban, suburban, and rural areas in the next decade.

“(3) CONTENTS.—The plan shall include the following:

“(A) Details of the Department’s surface transportation research and development programs, in-

cluding appropriate funding levels and a schedule with milestones, preliminary cost estimates, appropriate work scopes, personnel requirements, and estimated costs and goals for the next 3 years for each area of research and development.

“(B) A 10-year projection of long-term programs in surface transportation research and development and recommendations for the appropriate source or mechanism for surface transportation research and development funding, taking into account recommendations of the Research and Development Coordinating Council of the Department of Transportation and the plan of the National Council on Surface Transportation Research.

“(C) Recommendations on changes needed to assure that Federal, State, and local contracting procedures encourage the adoption of advanced technologies developed as a consequence of the research programs in this Act [see Short Title of 1991 Amendment note set out under section 101 of Title 49, Transportation].

“(4) OBJECTIVES.—The plan shall provide for the following:

“(A) The development, within the shortest period of time possible, of a range of technologies needed to produce convenient, safe, and affordable modes of surface transportation to be available for public use beginning in the mid-1990’s.

“(B) Maintenance of a long-term advanced research and development program to provide for next generation surface transportation systems.

“(5) COOPERATION WITH INDUSTRY.—A primary component of the plan shall be cooperation with industry in carrying out this part [part A (§§ 6001–6024) of title VI of Pub. L. 102–240, enacting sections 325 and 326 of this title, sections 3711b and 3711c of Title 15, Commerce and Trade, section 111 of Title 49, Transportation, and section 1625 of former Title 49, Transportation, amending this section and sections 204 and 321 of this title, section 5316 of Title 5, Government Organization and Employees, sections 3708 and 3712 to 3715 of Title 15, sections 101 and 301 of Title 49, and sections 1607c and 1608 of former Title 49, enacting provisions set out as notes under this section and sections 101 and 112 of this title and sections 111 and 301 of Title 49, and amending provisions set out as notes under section 1608 of former Title 49] and strengthening the manufacturing capabilities of United States firms in order to produce products for surface transportation systems.

“(6) CONFORMANCE WITH PLAN.—All surface transportation research and development within the Department of Transportation shall be included in the plan and shall be evaluated in accordance with the plan.

“(7) COORDINATION.—In developing the plan and carrying out this part, the Secretary shall consult with and, where appropriate, use the expertise of other Federal agencies and their laboratories.

“(8) TRANSMITTAL.—On or before January 15, 1993, and annually thereafter, the Secretary shall transmit the plan to Congress, together with the Secretary’s comments and recommendations. The Secretary shall review and update the plan before each transmittal under this paragraph.

“(9) RECOMMENDATIONS FOR ALTERNATIVES.—In the event a different technology or alternative program can be identified that would accomplish the same or better results than those described in this part, the Secretary may make recommendations for an alternative, and shall promptly report such alternative recommendations to Congress.”

#### NATIONAL COUNCIL ON SURFACE TRANSPORTATION RESEARCH

Section 6010 of Pub. L. 102–240 established a National Council on Surface Transportation Research, directed Council to make a complete investigation and study of current surface transportation research and technology developments in the United States and internationally,

and to identify gaps and duplication in current surface transportation research efforts, determine research and development areas which may increase efficiency, productivity, safety, and durability in the Nation’s surface transportation systems, and propose a national surface transportation research and development plan for immediate implementation, with Council to transmit to Congress, not later than Sept. 30, 1993, a report on the results of the investigation and study, including recommendations, and with Council to terminate on 180th day after date of transmittal of the report.

#### RESEARCH ADVISORY COMMITTEE

Section 6011 of Pub. L. 102–240 provided that:

“(a) ESTABLISHMENT.—Not later than 180 days after the date of transmittal of the report to Congress under section 6010 [of Pub. L. 102–240, formerly set out above], the Secretary shall establish an independent surface transportation research advisory committee (hereinafter in this section referred to as the ‘advisory committee’).

“(b) PURPOSES.—The advisory committee shall provide ongoing advice and recommendations to the Secretary regarding needs, objectives, plans, approaches, content, and accomplishments with respect to short-term and long-term surface transportation research and development. The advisory committee shall also assist in ensuring that such research and development is coordinated with similar research and development being conducted outside of the Department of Transportation.

“(c) MEMBERSHIP.—The advisory committee shall be composed of not less than 20 and not more than 30 members appointed by the Secretary from among individuals who are not employees of the Department of Transportation and who are specially qualified to serve on the advisory committee by virtue of their education, training, or experience. A majority of the members of the advisory committee shall be individuals with experience in conducting surface transportation research and development. The Secretary in appointing the members of the advisory committee shall ensure that representatives of Federal, State, and local governments, other public agencies, colleges and universities, public, private, and nonprofit research organizations, and organizations representing transportation providers, shippers, labor, and the financial community are represented on an equitable basis.

“(d) CHAIRMAN.—The chairman of the advisory committee shall be designated by the Secretary.

“(e) PAY AND EXPENSES.—Members of the advisory committee shall serve without pay, except that the Secretary may allow any member, while engaged in the business of the advisory committee or a subordinate committee, travel expenses, including per diem in lieu of subsistence, in accordance with sections 5702 and 5703 of title 5, United States Code.

“(f) SUBORDINATE COMMITTEES.—The Secretary shall establish a subordinate committee to the advisory committee to provide advice on advanced highway vehicle technology research and development, and may establish other subordinate committees to provide advice on specific areas of surface transportation research and development. Such subordinate committees shall be subject to subsections (e), (g), and (i) of this section.

“(g) ASSISTANCE OF SECRETARY.—Upon request of the advisory committee, the Secretary shall provide such information, administrative services, support staff, and supplies as the Secretary determines to be necessary for the advisory committee to carry out its functions.

“(h) REPORTS.—The advisory committee shall, within 1 year after the date of establishment of the advisory committee, and annually thereafter, submit to the Congress a report summarizing its activities under this section.

“(i) TERMINATION.—Section 14 of the Federal Advisory Committee Act [5 App. U.S.C.] shall not apply to the advisory committee established under this section.”

# FUNDAMENTAL PROPERTIES OF ASPHALTS AND MODIFIED ASPHALTS

Section 6016 of Pub. L. 102-240 provided that:

“(a) STUDIES.—The Administrator of the Federal Highway Administration (hereinafter in this section referred to as the ‘Administrator’) shall conduct studies of the fundamental chemical property and physical property of petroleum asphalts and modified asphalts used in highway construction in the United States. Such studies shall emphasize predicting pavement performance from the fundamental and rapidly measurable properties of asphalts and modified asphalts.

“(b) CONTRACTS.—To carry out the studies under subsection (a), the Administrator shall enter into contracts with the Western Research Institute of the University of Wyoming in order to conduct the necessary technical and analytical research in coordination with existing programs which evaluate actual performance of asphalts and modified asphalts in roadways, including the Strategic Highway Research Program.

“(c) ACTIVITIES OF STUDIES.—The studies under subsection (a) shall include the following activities:

“(1) Fundamental composition studies.

“(2) Fundamental physical and rheological property studies.

“(3) Asphalt-aggregate interaction studies.

“(4) Coordination of composition studies, physical and rheological property studies, and asphalt-aggregate interaction studies for the purposes of predicting pavement performance, including refinements of Strategic Highway Research Program specifications.

“(d) TEST STRIP.—

“(1) IMPLEMENTATION.—The Administrator, in coordination with the Western Research Institute of the University of Wyoming, shall implement a test strip for the purpose of demonstrating and evaluating the unique energy and environmental advantages of using shale oil modified asphalts under extreme climatic conditions.

“(2) FUNDING.—For the purposes of construction activities related to this test strip, the Secretary and the Director of the National Park Service shall make up to \$1,000,000 available from amounts made available from the authorization for parkroads and parkways.

“(3) REPORT TO CONGRESS.—Not later than November 30, 1995, the Administrator shall transmit to Congress as part of a report under subsection (e) the Administrator’s findings on activities conducted under this subsection, including an evaluation of the test strip implemented under this subsection and recommendations for legislation to establish a national program to support United States transportation and energy security requirements.

“(e) ANNUAL REPORT TO CONGRESS.—Not later than 180 days after the date of the enactment of this Act [Dec. 18, 1991], and on or before November 30th of each year beginning thereafter, the Administrator shall transmit to Congress a report of the progress made in implementing this section.

“(f) AUTHORIZATION OF APPROPRIATIONS.—The Secretary shall expend from administrative and research funds deducted under section 104(a) of this title at least \$3,000,000 for each of fiscal years 1992, 1993, 1994, 1995, and 1996 to carry out subsection (b).”

## INTELLIGENT VEHICLE-HIGHWAY SYSTEMS

Pub. L. 103-311, title I, § 109, Aug. 26, 1994, 108 Stat. 1675, provided that:

“(a) IN GENERAL.—In implementing the Intelligent Vehicle-Highway Systems Act of 1991 (23 U.S.C. 307 note) [Part B of title VI of Pub. L. 102-240], the Secretary of Transportation shall ensure that the National Intelligent Vehicle-Highway Systems Program addresses, in a comprehensive and coordinated manner, the use of intelligent vehicle-highway system technologies to promote hazardous materials transportation safety. The Secretary of Transportation shall ensure that 2 or more operational tests funded under such Act shall pro-

mote such safety and advance technology for providing information to persons who provide emergency response to hazardous materials transportation incidents.

“(b) GRANTS FOR CERTAIN EMERGENCY RESPONSE INFORMATION TECHNOLOGIES.—

“(1) In carrying out one of the operational tests under subsection (a), the Secretary of Transportation may make grants to one or more persons, including a State or local government or department, agency, or instrumentality thereof, to demonstrate the feasibility of establishing and operating computerized telecommunications emergency response information technologies that are used—

“(A) to identify the contents of shipments of hazardous materials transported by motor carriers;

“(B) to permit retrieval of data on shipments of hazardous materials transported by motor carriers;

“(C) to link systems that identify, store, and allow the retrieval of data for emergency response to incidents and accidents involving transportation of hazardous materials by motor carrier; and

“(D) to provide information to facilitate responses to accidents and incidents involving hazardous materials shipments by motor carriers either directly or through linkage with other systems.

“(2) Any project carried out with a grant under this subsection must involve two or more motor carriers of property. One of the motor carriers selected to participate in the project must be a carrier that transports mostly hazardous materials. The other motor carrier selected must be a regular-route common carrier that specializes in transporting less-than-truckload shipments. The motor carriers selected may be engaged in multimodal movements of hazardous materials with other motor carriers, rail carriers, or water carriers.

“(3) To the maximum extent practicable, the Secretary of Transportation shall coordinate a project under this subsection with any existing Federal, State, and local government projects and private projects which are similar to the project under this subsection. The Secretary may require that a project under this subsection be carried out in conjunction with such similar Federal, State, and local government projects and private projects.”

Part B of title VI of Pub. L. 102-240, as amended by Pub. L. 102-388, title IV, § 404, Oct. 6, 1992, 106 Stat. 1564, provided that:

“SEC. 6051. SHORT TITLE.

“This part may be cited as the ‘Intelligent Vehicle-Highway Systems Act of 1991’.

“SEC. 6052. ESTABLISHMENT AND SCOPE OF PROGRAM.

“(a) ESTABLISHMENT.—Subject to the provisions of this part, the Secretary shall conduct a program to research, develop, and operationally test intelligent vehicle-highway systems and promote implementation of such systems as a component of the Nation’s surface transportation systems.

“(b) GOALS.—The goals of the program to be carried out under this part shall include, but not be limited to—

“(1) the widespread implementation of intelligent vehicle-highway systems to enhance the capacity, efficiency, and safety of the Federal-aid highway system and to serve as an alternative to additional physical capacity of the Federal-aid highway system;

“(2) the enhancement, through more efficient use of the Federal-aid highway system, of the efforts of the several States to attain air quality goals established pursuant to the Clean Air Act [42 U.S.C. 7401 et seq.];

“(3) the enhancement of safe and efficient operation of the Nation’s highway systems with a particular emphasis on aspects of systems that will increase safety and identification of aspects of the system that may degrade safety;

“(4) the development and promotion of intelligent vehicle-highway systems and an intelligent vehicle-



highway systems industry in the United States, using authority provided under section 307 of title 23, United States Code;

“(5) the reduction of societal, economic, and environmental costs associated with traffic congestion;

“(6) the enhancement of United States industrial and economic competitiveness and productivity by improving the free flow of people and commerce and by establishing a significant United States presence in an emerging field of technology;

“(7) the development of a technology base for intelligent vehicle-highway systems and the establishment of the capability to perform demonstration experiments, using existing national laboratory capabilities where appropriate; and

“(8) the facilitation of the transfer of transportation technology from national laboratories to the private sector.

“SEC. 6053. GENERAL AUTHORITIES AND REQUIREMENTS.

“(a) COOPERATION.—In carrying out the program under this part, the Secretary shall foster use of the program as a key component of the Nation’s surface transportation systems and strive to transfer federally owned or patented technology to State and local governments and the United States private sector. As appropriate, in carrying out the program under this part, the Secretary shall consult with the Secretary of Commerce, the Administrator of the Environmental Protection Agency, the Director of the National Science Foundation, and the heads of other interested Federal departments and agencies and shall maximize the involvement of the United States private sector, colleges and universities, and State and local governments in all aspects of the program, including design, conduct (including operations and maintenance), evaluation, and financial or in-kind participation.

“(b) STANDARDS.—The Secretary shall develop and implement standards and protocols to promote the widespread use and evaluation of intelligent vehicle-highway systems technology as a component of the Nation’s surface transportation systems. To the extent practicable, such standards and protocols shall promote compatibility among intelligent vehicle-highway systems technologies implemented throughout the States. In carrying out this subsection, the Secretary may use the services of such existing standards-setting organizations as the Secretary determines appropriate.

“(c) EVALUATION GUIDELINES.—The Secretary shall establish guidelines and requirements for the evaluation of field and related operational tests carried out pursuant to section 6055. Any survey, questionnaire, or interview which the Secretary considers necessary to carry out the evaluation of such tests shall not be subject to the requirements of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.).

“(d) INFORMATION CLEARINGHOUSE.—

“(1) ESTABLISHMENT.—The Secretary shall establish and maintain a repository for technical and safety data collected as a result of federally sponsored projects carried out pursuant to this part and shall make, upon request, such information (except for proprietary information and data) readily available to all users of the repository at an appropriate cost.

“(2) DELEGATION OF AUTHORITY.—The Secretary may delegate the responsibility of the Secretary under this subsection, with continuing oversight by the Secretary, to an appropriate entity not within the Department of Transportation. If the Secretary delegates such responsibility, the entity to which such responsibility is delegated shall be eligible for Federal assistance under this part.

“(e) ADVISORY COMMITTEES.—The Secretary may utilize one or more advisory committees in carrying out this part. Any advisory committee so utilized shall be subject to the Federal Advisory Committee Act [5 App. U.S.C.]. Funding provided for any such committee shall be available from moneys appropriated for advisory committees as specified in relevant appropriations Acts

and from funds allocated for research, development, and implementation activities in connection with the intelligent vehicle-highway systems program under this part.

“SEC. 6054. STRATEGIC PLAN, IMPLEMENTATION, AND REPORT TO CONGRESS.

“(a) STRATEGIC PLAN.—

“(1) DEVELOPMENT AND IMPLEMENTATION.—Not later than 1 year after the date of the enactment of this Act [Dec. 18, 1991], the Secretary shall develop, submit to Congress, and commence implementation of a plan for the intelligent vehicle-highway systems program.

“(2) SCOPE.—The plan shall—

“(A) specify the goals, objectives, and milestones of the intelligent vehicle-highway program and how specific projects relate to the goals, objectives, and milestones, including consideration of the 5- 10- and 20-year timeframes for the goals and objectives;

“(B) detail the status of and challenges and non-technical constraints facing the program;

“(C) establish a course of action necessary to achieve the program’s goals and objectives;

“(D) provide for the development of standards and protocols to promote and ensure compatibility in the implementation of intelligent vehicle-highway systems technologies; and

“(E) provide for the accelerated use of advanced technology to reduce traffic congestion along heavily populated and traveled corridors.

“(b) INTELLIGENT VEHICLE HIGHWAY SYSTEMS.—The Secretary shall develop an automated highway and vehicle prototype from which future fully automated intelligent vehicle-highway systems can be developed. Such development shall include research in human factors to ensure the success of the man-machine relationship. The goal of this program is to have the first fully automated roadway or an automated test track in operation by 1997. This system shall accommodate installation of equipment in new and existing motor vehicles.

“(c) IMPLEMENTATION REPORTS.—

“(1) IN GENERAL.—Not later than 2 years after the date of the enactment of this Act [Dec. 18, 1991], and annually thereafter, the Secretary shall submit to Congress a report on implementation of the plan developed under subsection (a).

“(2) SCOPE OF IMPLEMENTATION REPORTS.—In preparing reports under this subsection, the Secretary shall—

“(A) analyze the possible and actual accomplishments of intelligent vehicle-highway systems projects in achieving congestion, safety, environmental, and energy conservation goals and objectives of the program;

“(B) specify cost-sharing arrangements made, including the scope and nature of Federal investment, in any research, development, or implementation project under the program;

“(C) assess nontechnical problems and constraints identified as a result of each such implementation project; and

“(D) include, if appropriate, any recommendations of the Secretary for legislation or modification to the plan developed under subsection (a).

“(d) NONTECHNICAL CONSTRAINTS.—

“(1) REPORT TO CONGRESS.—In cooperation with the Attorney General and the Secretary of Commerce, the Secretary shall prepare and submit, not later than 2 years after the date of the enactment of this Act [Dec. 18, 1991], a report to Congress addressing the nontechnical constraints and barriers to implementation of the intelligent vehicle-highway systems program.

“(2) SCOPE OF REPORT.—The report shall—

“(A) address antitrust, privacy, educational and staffing needs, patent, liability, standards, and other constraints, barriers, or concerns relating to the intelligent vehicle-highway systems program;

“(B) recommend legislative and administrative actions necessary to further the program; and

“(C) address ways to further promote industry and State and local government involvement in the program.

“(3) UPDATE OF REPORT.—Not later than 5 years after the date of the enactment of this Act, the Secretary shall prepare and submit to Congress an update of the report under this subsection.

“SEC. 6055. TECHNICAL, PLANNING, AND OPERATIONAL TESTING PROJECT ASSISTANCE.

“(a) TECHNICAL ASSISTANCE AND INFORMATION.—The Secretary may provide planning and technical assistance and information to State and local governments seeking to use and evaluate intelligent vehicle-highway systems technologies. In doing so, the Secretary shall assist State and local officials in developing plans for areawide traffic management control centers, necessary laws pertaining to establishment and implementation of such systems, and plans for infrastructure for such systems and in conducting other activities necessary for the intelligent vehicle-highway systems program.

“(b) PLANNING GRANTS.—The Secretary may make grants to State and local governments for feasibility and planning studies for development and implementation of intelligent vehicle-highway systems. Such grants shall be made at such time, in such amounts, and subject to such conditions as the Secretary may determine.

“(c) ELIGIBILITY OF CERTAIN TRAFFIC MANAGEMENT ENTITIES.—Any interagency traffic and incident management entity, including independent public authorities or agencies, contracted by a State department of transportation for implementation of a traffic management system for a designated corridor is eligible to receive Federal assistance under this part through the State department of transportation.

“(d) OPERATIONAL TESTING PROJECTS.—The Secretary may make grants to non-Federal entities, including State and local governments, universities, and other persons, for operational tests relating to intelligent vehicle-highway systems. In deciding which projects to fund under this subsection, the Secretary shall—

“(1) give the highest priority to those projects that—

“(A) will contribute to the goals and objectives specified in plan developed under section 6054; and

“(B) will minimize the relative percentage of Federal contributions (excluding funds apportioned under section 104 of title 23, United States Code) to total project costs;

“(2) seek to fund operational tests that advance the current state of knowledge and, where appropriate, build on successes achieved in previously funded work involving such systems; and

“(3) require that operational tests utilizing Federal funds under this part have a written evaluation of the intelligent vehicle-highway systems technologies investigated and of the results of the investigation which is consistent with the guidelines developed pursuant to section 6053(c).

“(e) AUTHORITY TO USE FUNDS.—Each State and eligible local entity is authorized to use funds provided under this part for implementation purposes in connection with the intelligent vehicle-highway systems program.

“SEC. 6056. APPLICATIONS OF TECHNOLOGY.

“(a) IVHS CORRIDORS PROGRAM.—The Secretary shall designate transportation corridors in which application of intelligent vehicle-highway systems will have particular benefit and, through financial and technical assistance under this part, shall assist in the development and implementation of such systems.

“(b) PRIORITIES.—In providing funding for corridors under this section, the Secretary shall allocate not less than 50 percent of the funds made available to carry out this section to eligible State or local entities for application of intelligent vehicle-highway systems in not less than 3 but not more than 10 corridors with the following characteristics:

“(1) Traffic density (as a measurement of vehicle miles traveled per highway mile) at least 1.5 times the national average for such class of highway.

“(2) Severe or extreme nonattainment for ozone under the Clean Air Act [42 U.S.C. 7401 et seq.], as determined by the Administrator of the Environmental Protection Agency.

“(3) A variety of types of transportation facilities, such as highways, bridges, tunnels, and toll and nontoll facilities.

“(4) Inability to significantly expand capacity of existing surface transportation facilities.

“(5) A significant mix of passenger, transit, and commercial motor carrier traffic.

“(6) Complexity of traffic patterns.

“(7) Potential contribution to the implementation of the Secretary's plan developed under section 6054.

“(c) OTHER CORRIDORS AND AREAS.—After the allocation pursuant to subsection (b), the balance of funds made available to carry out this section shall be allocated to eligible State and local entities for application of intelligent vehicle-highway systems in corridors and areas where the application of such systems and associated technologies will make a potential contribution to the implementation of the Secretary's plan for the intelligent vehicle-highway systems program under section 6054 and demonstrate benefits related to any of the following:

“(1) Improved operational efficiency.

“(2) Reduced regulatory burden.

“(3) Improved commercial productivity.

“(4) Improved safety.

“(5) Enhanced motorist and traveler performance.

Such corridors and areas may be in both urban and rural areas and may be interstate and intercity corridors. Urban corridors shall have a significant number of the characteristics set forth in subsection (b).

“SEC. 6057. COMMERCIAL MOTOR VEHICLE SAFETY TECHNOLOGY.

“(a) STUDY.—The Secretary shall conduct a study to evaluate technology which is designed for installation on a commercial motor vehicle to provide the individual operating the vehicle with a warning if a turn, lane change, or other intended movement of the vehicle by the operator will place the vehicle in the path of an adjacent object or vehicle.

“(b) REPORT.—Not later than 2 years after the date of the enactment of this Act [Dec. 18, 1991], the Secretary shall transmit to the Committee on Public Works and Transportation of the House of Representatives and the Committee on Environment and Public Works of the Senate a report containing findings and recommendations concerning the study conducted under this section.

“SEC. 6058. FUNDING.

“(a) IVHS CORRIDORS PROGRAM.—There is authorized to be appropriated to the Secretary for carrying out section 6056, out of the Highway Trust Fund (other than the Mass Transit Account), \$71,000,000 for fiscal year 1992 and \$86,000,000 per fiscal year for each of fiscal years 1993 through 1997. In addition to amounts made available by subsection (b), any amounts authorized by this subsection and not allocated by the Secretary for carrying out section 6056 for fiscal years 1992 and 1993 may be used by the Secretary for carrying out other activities authorized under this part.

“(b) OTHER IVHS ACTIVITIES.—There is authorized to be appropriated to the Secretary for carrying out this part (other than section 6056), out of the Highway Trust Fund (other than the Mass Transit Account), \$23,000,000 for fiscal year 1992 and \$27,000,000 per fiscal year for each of fiscal years 1993 through 1997.

“(c) RESERVATION OF FUNDS.—Of the funds made available pursuant to subsection (a), not less than 5 percent shall only be available for innovative, high-risk operational or analytical tests that do not attract substantial non-Federal commitments but are determined by the Secretary as having significant potential to help accomplish long-term goals established by the plan developed pursuant to section 6054.

“(d) FEDERAL SHARE PAYABLE.—The Federal share payable on account of activities carried out under section 6056, as well as operational test activities carried out under this part (other than section 6056), shall not exceed 80 percent of the cost of such activities. The Secretary may waive application of the preceding sentence for projects undertaken pursuant to subsection (c) of this section. The Secretary shall seek maximum private participation in the funding of such activities.

“(e) APPLICABILITY OF TITLE 23.—Funds authorized by this section shall be available for obligation in the same manner as if such funds were apportioned under chapter 1 of title 23, United States Code; except that the Federal share of the cost of any activity under this section shall be determined in accordance with this section and such funds shall remain available until expended. Such funds shall be subject to the obligation limitation imposed by section 102 of this Act [probably means section 1002 of Pub. L. 102-240, set out as a note under section 104 of this title].

“SEC. 6059. DEFINITIONS.

“For the purposes of this part, the following definitions apply:

“(1) IVHS.—The term ‘intelligent vehicle-highway systems’ means the development or application of electronics, communications, or information processing (including advanced traffic management systems, commercial vehicle operations, advanced traveler information systems, commercial and advanced vehicle control systems, advanced public transportation systems, satellite vehicle tracking systems, and advanced vehicle communications systems) used singly or in combination to improve the efficiency and safety of surface transportation systems.

“(2) CORRIDOR.—The term ‘corridor’ means any major transportation route which includes parallel limited access highways, major arterials, or transit lines; and, with regard to traffic incident management, such term may include more distant transportation routes that can serve as viable options to each other in the event of traffic incidents.

“(3) STATE.—The term ‘State’ has the meaning such term has under section 101 of title 23, United States Code.”

USE OF ROCK SALT ON HIGHWAYS; DEVELOPMENT OF ALTERNATIVE DE-ICERS

Section 173 of Pub. L. 100-17 provided that: “It is the sense of Congress—

“(1) that, to enhance environmental protection, and mitigate potential damages to highways and vehicles, Congress encourages efforts to advance the research and development of alternative chemical de-icers to rock salt;

“(2) that Congress encourages research on alternative chemical de-icers to rock salt under the strategic highway research program under section 307(d) of title 23, United States Code; and

“(3) that once alternative de-icers are commercially available, the full cost of all de-icing materials, including damages to highways, vehicles, and the environment, should be considered by State and local governments in determining their snow and ice control strategies.”

STUDY OF METHANE CONVERSION FOR HIGHWAY FUEL USE; REPORT TO CONGRESS BY JAN. 6, 1984

Section 152 of Pub. L. 97-424 provided that: “The Secretary of Transportation shall study, out of any funds available to the Secretary of Transportation for research purposes, the potential for recovering methane which is released in the process of offshore oil drilling and converting such methane on a floating conversion plant located at the drilling site into methanol for use as a fuel for highway vehicles. Such study shall include, but need not be limited to, a determination of the quality and quantity of the methane which is released at offshore drilling sites at various locations and the costs involved in recovering such methane and con-

verting it in the manner described in the preceding sentence. The Secretary shall also determine the permitting requirements which would apply to such floating conversion plants and the most effective way to implement those permitting requirements. The Secretary shall report to the Congress the results of the study under this section not later than one year after the date of enactment of this Act [Jan. 6, 1983].”

ACCESS CONTROL DEMONSTRATION PROJECTS; REPORT TO CONGRESS; APPROPRIATIONS AUTHORIZATION

Pub. L. 95-599, title I, §150, Nov. 6, 1978, 92 Stat. 2715, as amended by Pub. L. 97-424, title I, §140, Jan. 6, 1983, 96 Stat. 2128; Pub. L. 98-78, title I, §101, Aug. 15, 1983, 97 Stat. 459, provided that:

“(a) The Secretary of Transportation is authorized to carry out access control demonstration projects designed to demonstrate whether preserving the capacity of existing highways to move traffic safely by acquiring and controlling the right of access to such a highway is a cost effective alternative to the construction of additional highways. Such demonstration projects shall be carried out (1) on highways which are on the Federal-aid primary or secondary system, and are well maintained and in good condition, and (2) in traffic corridors which are not already subject to heavy industrial, commercial, or residential development. The Secretary of Transportation shall carry out one such demonstration project in each of three States.

“(b) On or before September 30, 1985, the Secretary shall report to Congress the results of the projects carried out under this section.

“(c) There is authorized to be appropriated to carry out this section, out of the Highway Trust Fund, not to exceed \$10,000,000 for the fiscal year ending September 30, 1979, and \$20,000,000 for the fiscal year ending September 30, 1980.

“(d) Funds authorized by this section shall be available for obligation in the same manner and to the same extent as if such funds were apportioned under chapter 1 of title 23, United States Code: *Provided, however*, That sums shall not lapse until September 30, 1985.”

ROUTES IN ALASKA AND PUERTO RICO AS PART OF SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS; STUDY AND REPORT TO CONGRESS

Pub. L. 95-599, title I, §156, Nov. 6, 1978, 92 Stat. 2717, directed Secretary of Transportation to study and report to Congress by July 1, 1979, on feasibility and desirability of designing routes in State of Alaska and Commonwealth of Puerto Rico as part of National System of Interstate and Defense Highways [now Dwight D. Eisenhower System of Interstate and Defense Highways].

UNIFORMITY IN MAXIMUM TRUCK SIZE AND WEIGHT LIMITS; STUDY AND REPORT TO CONGRESS

Pub. L. 95-599, title I, §161, Nov. 6, 1978, 92 Stat. 2719, related to a study, investigation, and report by Jan. 15, 1981, by the Secretary of Transportation in cooperation with other Federal officers and agencies, etc., respecting uniformity in maximum truck size and weight limits.

STUDY OF FACTORS AFFECTING SAFE AND EFFICIENT OPERATION OF BRIDGES, TUNNELS AND ROADS WITHIN UNITED STATES

Pub. L. 95-599, title I, §166, Nov. 6, 1978, 92 Stat. 2722, provided that: “The Secretary of Transportation shall make a full and complete investigation and study of all those factors affecting the safe and efficient operation of bridges, tunnels, and roads within the United States, including, but not limited to, structural, operational, environmental, and civil disturbance factors.”

STUDY OF OUTSIZED VEHICLES FOR OPERATION ON HIGHWAYS

Pub. L. 95-599, title II, §211, Nov. 6, 1978, 92 Stat. 2734, directed Secretary of Transportation to make a com-

plete study of outsized vehicles for operation on highways constructed in a manner which exceed standardized industry configurations and that Secretary make a report to Congress on the results of his study not later than six months after Nov. 6, 1978.

#### COST ALLOCATION STUDY

Pub. L. 95-599, title V, §506, Nov. 6, 1978, 92 Stat. 2760, directed Secretary of Transportation, with assistance from Congressional Budget Office and in cooperation with State highway departments, to undertake a full investigation and study of the costs occasioned in design, construction, rehabilitation, and maintenance of Federal-aid highways by use of vehicles of different dimensions, weights, and other specifications, and by frequency of such vehicles in traffic stream, the proportionate share of such design, construction, rehabilitation, and maintenance costs attributable to each class of persons and vehicles using such highways, and the need for long-term or continuous monitoring of roadway deterioration to determine the relative damage attributable to traffic and environmental factors, with a report by Secretary to Congress on a plan for investigation and study within 180 days after Nov. 6, 1978, progress reports on or before Jan. 15, 1980, and Jan. 15, 1981, and a report on findings and recommendations of the study no later than Jan. 15, 1982, which recommendations were to include any alternative tax structures to more nearly achieve an equitable distribution of tax burden among classes of persons and vehicles using Federal-aid highways, and projected impact of such structures on affected industries and other users.

#### HIGHWAY LITTER STUDY; REPORT TO CONGRESS; FUNDS AUTHORIZATION

Section 155 of Pub. L. 93-87 authorized a study by the Secretary of litter accumulation within rights-of-way of Federal-aid highway systems, such study, including recommendations for improved procedures for litter prevention, to be reported to Congress by June 30, 1974.

#### ALASKA HIGHWAY

Section 119 of Pub. L. 91-605 provided that:

“(a) The President, acting through the Secretaries of State and Transportation, is authorized to undertake negotiations with the Government of Canada for the purpose of entering into a suitable agreement authorizing paving and reconstructing the Alaska Highway from Dawson Creek, Canada (including a connecting highway to Haines, Alaska), to the Alaska border, including, but not limited to, necessary highway realignment.

“(b) The President shall report to Congress not later than one year after the date of enactment of this section [Dec. 31, 1970] the results of his negotiations under this section.”

#### STUDY OF RELATIONSHIP OF HIGHWAY CONSTRUCTION TO PUBLIC TRANSPORTATION SERVICES; REPORT TO CONGRESS

Section 144 of Pub. L. 91-605 directed Secretary to undertake a study and analysis of use of existing highway facilities for highway public transportation service, need for additional highway facilities or adjustment of existing facilities to accommodate such service, and appropriate funding of such additional highway facilities and to report to Congress his findings and recommendations not later than Jan. 1, 1972.

#### AUTHORIZATION OF ADDITIONAL APPROPRIATIONS

Section 105 of Pub. L. 89-564 authorized to be appropriated the additional sum of \$10,000,000 for the fiscal year ending June 30, 1967, \$20,000,000 for the fiscal year ending June 30, 1968, and \$25,000,000 for the fiscal year ending June 30, 1969 for the purpose of carrying out sections 307(a) and 403 of this title.

#### AVAILABILITY OF REPORTS OF RESEARCH PRODUCTS TO THE PUBLIC

Completed reports on research projects, demonstration projects, and other related activities conducted

under this section and section 403 of this title to be made available to the public in a manner which does not identify individuals, see section 106 of Pub. L. 89-564, set out as a note under section 403 of this title.

#### ALASKA HIGHWAY STUDY

Section 13 of Pub. L. 87-866, as amended by Pub. L. 97-449, §2(a), Jan. 12, 1983, 96 Stat. 2439, provided that:

“(a) The Secretary of Transportation, in cooperation with the State of Alaska, is hereby authorized to make engineering studies and estimates and planning surveys relative to a highway construction program for the State of Alaska, and, in accordance with treaties or other agreements to be negotiated with Canada by the Secretary of State in consultation with the Secretary of Transportation, engineering studies, estimates, and planning surveys relative to connecting Alaskan roads with Canadian roads at the International boundary.

“(b) On or before May 15, 1964, the Secretary of Transportation shall submit a report to the Congress which shall include—

“(1) an analysis of the adequacy of the Federal-aid highway program to provide for a satisfactory program in both the populated and the undeveloped areas in Alaska;

“(2) specific recommendations as to the construction of roads through undeveloped areas of Alaska and connection of such roads with Canadian roads at the International boundary; and

“(3) a feasible program for implementing such specific recommendations, including cost estimates, recommendations as to the sharing of cost responsibilities, and other pertinent matters.

“(c) From time to time, either before or after submission of the report provided for in subsection (b) of this section, the Secretary of Transportation may submit recommendations to the Congress with respect to the construction of particular highways to carry out the purposes of this section.

“(d) Nothing in this section shall be construed as creating any obligation in the Congress, express or implied, to carry out the recommendations referred to in subsections (b) and (c).

“(e) There is hereby authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, to be available until expended, the sum of \$800,000 for the purpose of making the studies, surveys, and report authorized by subsections (a) and (b) hereof.”

#### MILEAGE STUDY OF SYSTEM OF INTERSTATE AND DEFENSE HIGHWAY FOR ALASKA AND HAWAII

Pub. L. 86-342, title I, §105, Sept. 21, 1959, 73 Stat. 612, directed Secretary of Commerce to make a study of need for extension of National System of Interstate and Defense Highways [now Dwight D. Eisenhower System of Interstate and Defense Highways] within States of Alaska and Hawaii, and report results of such study to Congress within ten days subsequent to Jan. 4, 1960. The report was required to include recommendations as to approximate routes and mileages thereof which should be included in such system within those States.

#### TESTS TO DETERMINE MAXIMUM DESIRABLE DIMENSIONS AND WEIGHTS FOR VEHICLES

Section 108(k) of act June 29, 1956, ch. 462, title I, 70 Stat. 381, as amended by Pub. L. 85-823, §2, Aug. 28, 1958, 72 Stat. 983, directed the Secretary of Commerce to take all action possible to expedite the conduct of a series of tests planned or conducted by the Highway Research Board of the National Academy of Sciences, in cooperation with the Bureau of Public Roads, the several States, and other persons and organizations, for the purpose of determining the maximum desirable dimensions and weights for vehicles operated on the Federal-aid highway systems, including the Interstate System, and, after the conclusion of such tests, but not later than January 3, 1961, to make recommendations to the Congress with respect to such maximum desirable dimensions and weights.

INVESTIGATION AND REPORT TO ASSURE AN EQUITABLE  
DISTRIBUTION OF THE TAX BURDEN

Section 210 of act June 29, 1956, ch. 462, title II, 70 Stat. 401, as amended by Pub. L. 85-823, §1, Aug. 28, 1958, 72 Stat. 983, directed Secretary of Commerce, in cooperation with other Federal officers and agencies (particularly Interstate Commerce Commission) and with State highway departments, to make a study and investigation of effects on design, construction, and maintenance of Federal-aid highways of (A) use of vehicles of different dimensions, weights, and other specifications, and (B) frequency of occurrences of such vehicles in traffic stream, the proportionate share of design, construction, and maintenance costs of the Federal-aid highways attributable to each class of persons using such highways and the benefits derived from use of such highways, and any direct and indirect benefits accruing to any class which derives benefits from Federal-aid highways, in addition to benefits from actual use of such highways, which are attributable to public expenditures for such highways and required final report to be made no later than Jan. 3, 1961.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 103, 104, 115, 135, 144, 151, 157 of this title; title 49 sections 111, 41714.

**§ 308. Cooperation with Federal and State agencies and foreign countries**

(a) The Secretary is authorized to perform by contract or otherwise, authorized engineering or other services in connection with the survey, construction, maintenance, or improvement of highways for other Government agencies, cooperating foreign countries, and State cooperating agencies, and reimbursement for such services, which may include depreciation on engineering and roadbuilding equipment used, shall be credited to the appropriation concerned.

(b) Appropriations for the work of the Federal Highway Administration shall be available for expenses of warehouse maintenance and the procurement, care, and handling of supplies, materials, and equipment for distribution of projects under the supervision of the Federal Highway Administration, or for sale or distribution to other Government agencies, cooperating foreign countries, and State cooperating agencies, and the cost of such supplies and materials or the value of such equipment, including the cost of transportation and handling, may be reimbursed to current applicable appropriations.

(Pub. L. 85-767, Aug. 27, 1958, 72 Stat. 914; Pub. L. 93-87, title I, §152(5), Aug. 13, 1973, 87 Stat. 276.)

AMENDMENTS

1973—Subsec. (b). Pub. L. 93-87 substituted “Federal Highway Administration” for “Bureau of Public Roads” in two places.

**§ 309. Cooperation with other American Republics**

The President is authorized to utilize the services of the Federal Highway Administration in fulfilling the obligations of the United States under the Convention on the Pan-American Highway Between the United States and Other American Republics (51 Stat. 152), cooperating with several governments, members of the Organization of American States, in connection with the survey and construction of the Inter-American Highway, and for performing engineering

service in the other American Republics for and upon the request of any agency or governmental corporation of the United States. To the extent authorized in appropriation acts, administrative funds available in accordance with subsection (a) of section 104 of this title shall be available annually for the purpose of this section.

(Pub. L. 85-767, Aug. 27, 1958, 72 Stat. 914; Pub. L. 93-87, title I, §152(5), Aug. 13, 1973, 87 Stat. 276.)

AMENDMENTS

1973—Pub. L. 93-87 substituted “Federal Highway Administration” for “Bureau of Public Roads”.

**§ 310. Civil defense**

In order to assure that adequate consideration is given to civil defense aspects in the planning and construction of highways constructed or reconstructed with the aid of Federal funds, the Secretary of Transportation is authorized and directed to consult, from time to time, with the Federal Civil Defense Administrator relative to the civil defense aspects of highways so constructed or reconstructed.

(Pub. L. 85-767, Aug. 27, 1958, 72 Stat. 914; Pub. L. 93-87, title I, §152(3), Aug. 13, 1973, 87 Stat. 276.)

AMENDMENTS

1973—Pub. L. 93-87 substituted “Secretary of Transportation” for “Secretary of Commerce”.

TRANSFER OF FUNCTIONS

Office of Federal Civil Defense Administrator, referred to in text, abolished and functions thereof transferred to President by Reorg. Plan No. 1 of 1958, set out as a note under section 5195 of Title 42, The Public Health and Welfare. The Plan also established a new agency in the Executive Office of the President, known as the Office of Defense and Civilian Mobilization to be headed by a Director. Office redesignated as the Office of Civil and Defense Mobilization by act Aug. 26, 1958 (72 Stat. 861; 42 U.S.C. 5195 note). Civil defense functions transferred to Secretary of Defense by Executive Order No. 10952 of July 20, 1961, formerly set out as a note under section 2271 of Title 50, Appendix, War and National Defense, and remaining functions redesignated Office of Emergency Planning by act Sept. 22, 1961 (75 Stat. 630; 42 U.S.C. 5195 note). Office redesignated Office of Emergency Preparedness by act Oct. 21, 1968 (82 Stat. 1194; 42 U.S.C. 5195 note). Office of Emergency Preparedness including office of Director abolished and functions thereof transferred to President by Reorg. Plan No. 1 of 1973, set out as a note under section 5195 of Title 42.

**§ 311. Highway improvements strategically important to the national defense**

Funds made available under subsection (a) of section 104 of this title may be used to pay the entire engineering costs of the surveys, plans, specifications, estimates, and supervision of construction of projects for such urgent improvements of highways strategically important from the standpoint of the national defense as may be undertaken on the order of the Secretary and as the result of request of the Secretary of Defense or such other official as the President may designate. With the consent of a State, funds made available under subsection (b) of section 104 of this title may be used to the extent deemed necessary and advisable by the Secretary to carry out the provisions of this section.